

# 1 Benchmark tables with APFEL++

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$4.9966^{+4}$	$1.5085^{+0}$	$3.4458^{-2}$	$9.6690^{+4}$	$9.6717^{+4}$	$2.8589^{+0}$	$2.8595^{+0}$	$2.1997^{+4}$	$-2.1814^{+4}$
$1.0^{-4}$	$3.5370^{+3}$	$1.0505^{+0}$	$1.7875^{-2}$	$6.8928^{+3}$	$6.9067^{+3}$	$2.0028^{+0}$	$2.0058^{+0}$	$1.7751^{+3}$	$-1.6803^{+3}$
$1.0^{-3}$	$2.4761^{+2}$	$7.1563^{-1}$	$8.7463^{-3}$	$4.8255^{+2}$	$4.8939^{+2}$	$1.3664^{+0}$	$1.3811^{+0}$	$1.5419^{+2}$	$-1.0784^{+2}$
$1.0^{-2}$	$1.8294^{+1}$	$4.9277^{-1}$	$3.9543^{-3}$	$3.3637^{+1}$	$3.6713^{+1}$	$9.0065^{-1}$	$9.6775^{-1}$	$1.7954^{+1}$	$2.9668^{+0}$
$1.0^{-1}$	$1.7795^{+0}$	$4.0072^{-1}$	$1.4381^{-3}$	$2.4287^{+0}$	$3.5994^{+0}$	$5.5218^{-1}$	$8.0596^{-1}$	$3.1699^{+0}$	$4.3670^{+0}$
$3.0^{-1}$	$5.0019^{-1}$	$3.1315^{-1}$	$5.3436^{-4}$	$4.8044^{-1}$	$1.0247^{+0}$	$3.0027^{-1}$	$6.4138^{-1}$	$8.7182^{-1}$	$1.8494^{+0}$
$5.0^{-1}$	$1.6809^{-1}$	$1.7140^{-1}$	$1.8517^{-4}$	$1.1350^{-1}$	$3.5189^{-1}$	$1.1539^{-1}$	$3.5888^{-1}$	$2.2211^{-1}$	$6.8705^{-1}$
$7.0^{-1}$	$3.7649^{-2}$	$5.3128^{-2}$	$4.0874^{-5}$	$1.5406^{-2}$	$8.0950^{-2}$	$2.1703^{-2}$	$1.1424^{-1}$	$3.0736^{-2}$	$1.6129^{-1}$
$9.0^{-1}$	$1.6475^{-3}$	$2.9702^{-3}$	$1.7405^{-6}$	$2.2898^{-4}$	$3.6497^{-3}$	$4.1266^{-4}$	$6.5798^{-3}$	$4.5806^{-4}$	$7.2985^{-3}$

Table 1: NLO stucture functions with NLO evolution at  $Q = 2$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$6.5169^{+5}$	$1.5831^{+1}$	$3.9508^{+1}$	$1.0443^{+6}$	$1.0444^{+6}$	$2.5233^{+1}$	$2.5235^{+1}$	$2.2026^{+4}$	$-2.1598^{+4}$
$1.0^{-4}$	$3.0094^{+4}$	$7.1530^{+0}$	$1.8274^{+1}$	$4.8785^{+4}$	$4.8812^{+4}$	$1.1524^{+1}$	$1.1529^{+1}$	$1.8058^{+3}$	$-1.6079^{+3}$
$1.0^{-3}$	$1.2782^{+3}$	$2.9512^{+0}$	$7.9359^{+0}$	$2.1053^{+3}$	$2.1175^{+3}$	$4.8278^{+0}$	$4.8529^{+0}$	$1.6680^{+2}$	$-8.0951^{+1}$
$1.0^{-2}$	$5.0228^{+1}$	$1.1089^{+0}$	$3.0514^{+0}$	$8.2279^{+1}$	$8.7032^{+1}$	$1.8084^{+0}$	$1.9071^{+0}$	$2.1543^{+1}$	$1.1369^{+1}$
$1.0^{-1}$	$2.1078^{+0}$	$4.3654^{-1}$	$7.4300^{-1}$	$2.6583^{+0}$	$3.9864^{+0}$	$5.5087^{-1}$	$8.2396^{-1}$	$3.0120^{+0}$	$4.8797^{+0}$
$3.0^{-1}$	$3.3828^{-1}$	$2.0595^{-1}$	$1.6781^{-1}$	$2.8339^{-1}$	$6.6939^{-1}$	$1.7236^{-1}$	$4.0750^{-1}$	$5.0084^{-1}$	$1.2251^{+0}$
$5.0^{-1}$	$7.2949^{-2}$	$7.3507^{-2}$	$3.7503^{-2}$	$4.1693^{-2}$	$1.4855^{-1}$	$4.1970^{-2}$	$1.4969^{-1}$	$8.0977^{-2}$	$2.9141^{-1}$
$7.0^{-1}$	$9.7862^{-3}$	$1.3749^{-2}$	$4.9771^{-3}$	$3.3390^{-3}$	$2.0488^{-2}$	$4.6882^{-3}$	$2.8785^{-2}$	$6.6487^{-3}$	$4.0859^{-2}$
$9.0^{-1}$	$1.7778^{-4}$	$3.2027^{-4}$	$8.8431^{-5}$	$2.0508^{-5}$	$3.8298^{-4}$	$3.6939^{-5}$	$6.8993^{-4}$	$4.1020^{-5}$	$7.6590^{-4}$

Table 2: NLO stucture functions with NLO evolution at  $Q = 50$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$9.9730^{+5}$	$2.3646^{+1}$	$1.0594^{+2}$	$1.3337^{+6}$	$1.3338^{+6}$	$3.1492^{+1}$	$3.1494^{+1}$	$2.1969^{+4}$	$-2.1494^{+4}$
$1.0^{-4}$	$4.3984^{+4}$	$1.0220^{+1}$	$4.8352^{+1}$	$5.9496^{+4}$	$5.9526^{+4}$	$1.3756^{+1}$	$1.3762^{+1}$	$1.8063^{+3}$	$-1.5895^{+3}$
$1.0^{-3}$	$1.7689^{+3}$	$4.0031^{+0}$	$2.0642^{+1}$	$2.4329^{+3}$	$2.4459^{+3}$	$5.4752^{+0}$	$5.5022^{+0}$	$1.6843^{+2}$	$-7.6015^{+1}$
$1.0^{-2}$	$6.4595^{+1}$	$1.4056^{+0}$	$7.7271^{+0}$	$8.8894^{+1}$	$9.3889^{+1}$	$1.9269^{+0}$	$2.0302^{+0}$	$2.1948^{+1}$	$1.2542^{+1}$
$1.0^{-1}$	$2.4151^{+0}$	$4.9778^{-1}$	$1.7757^{+0}$	$2.6188^{+0}$	$3.9463^{+0}$	$5.3990^{-1}$	$8.1190^{-1}$	$2.9482^{+0}$	$4.8573^{+0}$
$3.0^{-1}$	$3.5670^{-1}$	$2.1677^{-1}$	$3.7653^{-1}$	$2.6060^{-1}$	$6.2364^{-1}$	$1.5823^{-1}$	$3.7897^{-1}$	$4.6037^{-1}$	$1.1439^{+0}$
$5.0^{-1}$	$7.2170^{-2}$	$7.2656^{-2}$	$7.9652^{-2}$	$3.6259^{-2}$	$1.3130^{-1}$	$3.6472^{-2}$	$1.3220^{-1}$	$7.0406^{-2}$	$2.5774^{-1}$
$7.0^{-1}$	$9.0080^{-3}$	$1.2651^{-2}$	$9.9079^{-3}$	$2.7203^{-3}$	$1.6996^{-2}$	$3.8183^{-3}$	$2.3869^{-2}$	$5.4157^{-3}$	$3.3897^{-2}$
$9.0^{-1}$	$1.4497^{-4}$	$2.6113^{-4}$	$1.5706^{-4}$	$1.4904^{-5}$	$2.8369^{-4}$	$2.6843^{-5}$	$5.1103^{-4}$	$2.9810^{-5}$	$5.6734^{-4}$

Table 3: NLO stucture functions with NLO evolution at  $Q = 100$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$5.6571^{+4}$	$1.4043^{+0}$	$4.3612^{-2}$	$1.1410^{+5}$	$1.1414^{+5}$	$2.7950^{+0}$	$2.7957^{+0}$	$3.9818^{+4}$	$-3.9585^{+4}$
$1.0^{-4}$	$3.3447^{+3}$	$8.9926^{-1}$	$1.9576^{-2}$	$6.8498^{+3}$	$6.8653^{+3}$	$1.7990^{+0}$	$1.8024^{+0}$	$2.7590^{+3}$	$-2.6549^{+3}$
$1.0^{-3}$	$2.0700^{+2}$	$5.9521^{-1}$	$8.8330^{-3}$	$4.2120^{+2}$	$4.2823^{+2}$	$1.1768^{+0}$	$1.1924^{+0}$	$1.9262^{+2}$	$-1.4580^{+2}$
$1.0^{-2}$	$1.5677^{+1}$	$4.4504^{-1}$	$3.9117^{-3}$	$2.8989^{+1}$	$3.2064^{+1}$	$8.1638^{-1}$	$8.8502^{-1}$	$1.8013^{+1}$	$2.6760^{+0}$
$1.0^{-1}$	$1.6533^{+0}$	$3.9509^{-1}$	$1.3776^{-3}$	$2.2079^{+0}$	$3.3478^{+0}$	$5.3905^{-1}$	$7.9275^{-1}$	$2.9831^{+0}$	$4.2298^{+0}$
$3.0^{-1}$	$4.6909^{-1}$	$3.0325^{-1}$	$5.0261^{-4}$	$4.5052^{-1}$	$9.6050^{-1}$	$2.9169^{-1}$	$6.2044^{-1}$	$8.2373^{-1}$	$1.7384^{+0}$
$5.0^{-1}$	$1.6450^{-1}$	$1.7075^{-1}$	$1.8147^{-4}$	$1.1385^{-1}$	$3.4373^{-1}$	$1.1765^{-1}$	$3.5687^{-1}$	$2.2316^{-1}$	$6.7051^{-1}$
$7.0^{-1}$	$4.0922^{-2}$	$5.8220^{-2}$	$4.4505^{-5}$	$1.7516^{-2}$	$8.7799^{-2}$	$2.4837^{-2}$	$1.2493^{-1}$	$3.4950^{-2}$	$1.7487^{-1}$
$9.0^{-1}$	$2.3255^{-3}$	$4.1997^{-3}$	$2.4590^{-6}$	$3.4231^{-4}$	$5.1469^{-3}$	$6.1765^{-4}$	$9.2950^{-3}$	$6.8477^{-4}$	$1.0292^{-2}$

Table 4: NNLO stucture functions with NNLO evolution at  $Q = 2$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$6.7559^{+5}$	$1.6167^{+1}$	$5.0329^{+1}$	$1.0932^{+6}$	$1.0933^{+6}$	$2.6001^{+1}$	$2.6003^{+1}$	$3.9590^{+4}$	$-3.9043^{+4}$
$1.0^{-4}$	$3.0902^{+4}$	$7.3197^{+0}$	$2.0316^{+1}$	$5.0548^{+4}$	$5.0577^{+4}$	$1.1888^{+1}$	$1.1894^{+1}$	$2.7462^{+3}$	$-2.5258^{+3}$
$1.0^{-3}$	$1.2898^{+3}$	$2.9968^{+0}$	$8.1455^{+0}$	$2.1383^{+3}$	$2.1507^{+3}$	$4.9301^{+0}$	$4.9560^{+0}$	$2.0130^{+2}$	$-1.1319^{+2}$
$1.0^{-2}$	$4.9898^{+1}$	$1.1147^{+0}$	$3.0465^{+0}$	$8.1771^{+1}$	$8.6560^{+1}$	$1.8178^{+0}$	$1.9175^{+0}$	$2.1548^{+1}$	$1.1298^{+1}$
$1.0^{-1}$	$2.0778^{+0}$	$4.3360^{-1}$	$7.3305^{-1}$	$2.6060^{+0}$	$3.9225^{+0}$	$5.4467^{-1}$	$8.1639^{-1}$	$2.9353^{+0}$	$4.8481^{+0}$
$3.0^{-1}$	$3.3135^{-1}$	$2.0256^{-1}$	$1.6414^{-1}$	$2.7727^{-1}$	$6.5515^{-1}$	$1.6938^{-1}$	$4.0045^{-1}$	$4.8818^{-1}$	$1.1999^{+0}$
$5.0^{-1}$	$7.1573^{-2}$	$7.2325^{-2}$	$3.6771^{-2}$	$4.1060^{-2}$	$1.4567^{-1}$	$4.1442^{-2}$	$1.4721^{-1}$	$7.9553^{-2}$	$2.8569^{-1}$
$7.0^{-1}$	$9.7708^{-3}$	$1.3750^{-2}$	$4.9694^{-3}$	$3.3652^{-3}$	$2.0447^{-2}$	$4.7319^{-3}$	$2.8775^{-2}$	$6.6926^{-3}$	$4.0769^{-2}$
$9.0^{-1}$	$1.9106^{-4}$	$3.4438^{-4}$	$9.5055^{-5}$	$2.2447^{-5}$	$4.1147^{-4}$	$4.0449^{-5}$	$7.4166^{-4}$	$4.4884^{-5}$	$8.2287^{-4}$

Table 5: NNLO stucture functions with NNLO evolution at  $Q = 50$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$1.0243^{+6}$	$2.4063^{+1}$	$1.3373^{+2}$	$1.3810^{+6}$	$1.3811^{+6}$	$3.2287^{+1}$	$3.2288^{+1}$	$3.9344^{+4}$	$-3.8743^{+4}$
$1.0^{-4}$	$4.5046^{+4}$	$1.0453^{+1}$	$5.3502^{+1}$	$6.1384^{+4}$	$6.1416^{+4}$	$1.4165^{+1}$	$1.4171^{+1}$	$2.7309^{+3}$	$-2.4909^{+3}$
$1.0^{-3}$	$1.7896^{+3}$	$4.0725^{+0}$	$2.1155^{+1}$	$2.4738^{+3}$	$2.4872^{+3}$	$5.5951^{+0}$	$5.6228^{+0}$	$2.0185^{+2}$	$-1.0715^{+2}$
$1.0^{-2}$	$6.4409^{+1}$	$1.4149^{+0}$	$7.7129^{+0}$	$8.8651^{+1}$	$9.3680^{+1}$	$1.9392^{+0}$	$2.0434^{+0}$	$2.1920^{+1}$	$1.2494^{+1}$
$1.0^{-1}$	$2.3847^{+0}$	$4.9442^{-1}$	$1.7535^{+0}$	$2.5741^{+0}$	$3.8905^{+0}$	$5.3416^{-1}$	$8.0472^{-1}$	$2.8772^{+0}$	$4.8285^{+0}$
$3.0^{-1}$	$3.4990^{-1}$	$2.1333^{-1}$	$3.6883^{-1}$	$2.5537^{-1}$	$6.1133^{-1}$	$1.5558^{-1}$	$3.7267^{-1}$	$4.4933^{-1}$	$1.1221^{+0}$
$5.0^{-1}$	$7.0814^{-2}$	$7.1454^{-2}$	$7.8100^{-2}$	$3.5678^{-2}$	$1.2877^{-1}$	$3.5965^{-2}$	$1.2994^{-1}$	$6.9107^{-2}$	$2.5271^{-1}$
$7.0^{-1}$	$8.9559^{-3}$	$1.2595^{-2}$	$9.8495^{-3}$	$2.7246^{-3}$	$1.6889^{-2}$	$3.8289^{-3}$	$2.3753^{-2}$	$5.4174^{-3}$	$3.3680^{-2}$
$9.0^{-1}$	$1.5308^{-4}$	$2.7588^{-4}$	$1.6587^{-4}$	$1.5980^{-5}$	$2.9948^{-4}$	$2.8791^{-5}$	$5.3972^{-4}$	$3.1950^{-5}$	$5.9890^{-4}$

Table 6: NNLO stucture functions with NNLO evolution at  $Q = 100$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$5.6188^{+4}$	$1.7533^{+0}$	$4.6687^{-2}$	$1.1326^{+5}$	$1.1329^{+5}$	$3.4230^{+0}$	$3.4237^{+0}$	$3.9272^{+4}$	$-3.9021^{+4}$
$1.0^{-4}$	$3.1753^{+3}$	$9.6463^{-1}$	$1.9339^{-2}$	$6.5344^{+3}$	$6.5494^{+3}$	$1.9167^{+0}$	$1.9200^{+0}$	$2.7201^{+3}$	$-2.6173^{+3}$
$1.0^{-3}$	$1.9745^{+2}$	$5.7885^{-1}$	$8.6369^{-3}$	$4.0338^{+2}$	$4.1033^{+2}$	$1.1475^{+0}$	$1.1630^{+0}$	$1.8960^{+2}$	$-1.4389^{+2}$
$1.0^{-2}$	$1.5183^{+1}$	$4.2615^{-1}$	$3.8995^{-3}$	$2.8075^{+1}$	$3.1133^{+1}$	$7.8251^{-1}$	$8.5121^{-1}$	$1.7838^{+1}$	$2.7906^{+0}$
$1.0^{-1}$	$1.6106^{+0}$	$3.9556^{-1}$	$1.3675^{-3}$	$2.1325^{+0}$	$3.2679^{+0}$	$5.3851^{-1}$	$7.9410^{-1}$	$2.9518^{+0}$	$4.2071^{+0}$
$3.0^{-1}$	$4.5288^{-1}$	$3.0005^{-1}$	$4.8776^{-4}$	$4.3219^{-1}$	$9.2842^{-1}$	$2.8837^{-1}$	$6.1415^{-1}$	$7.9934^{-1}$	$1.6868^{+0}$
$5.0^{-1}$	$1.5979^{-1}$	$1.6861^{-1}$	$1.7660^{-4}$	$1.1169^{-1}$	$3.3374^{-1}$	$1.1735^{-1}$	$3.5225^{-1}$	$2.1993^{-1}$	$6.5102^{-1}$
$7.0^{-1}$	$4.1966^{-2}$	$6.0233^{-2}$	$4.5715^{-5}$	$1.8563^{-2}$	$8.9909^{-2}$	$2.6513^{-2}$	$1.2908^{-1}$	$3.7085^{-2}$	$1.7901^{-1}$
$9.0^{-1}$	$2.9251^{-3}$	$5.2931^{-3}$	$3.0959^{-6}$	$4.5450^{-4}$	$6.4683^{-3}$	$8.2129^{-4}$	$1.1705^{-2}$	$9.0922^{-4}$	$1.2935^{-2}$

Table 7: N<sup>3</sup>LO stucture functions with NNLO evolution at  $Q = 2$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$6.7294^{+5}$	$1.6195^{+1}$	$5.0418^{+1}$	$1.0891^{+6}$	$1.0891^{+6}$	$2.6045^{+1}$	$2.6046^{+1}$	$3.9566^{+4}$	$-3.9017^{+4}$
$1.0^{-4}$	$3.0787^{+4}$	$7.3136^{+0}$	$2.0289^{+1}$	$5.0369^{+4}$	$5.0398^{+4}$	$1.1879^{+1}$	$1.1885^{+1}$	$2.7443^{+3}$	$-2.5242^{+3}$
$1.0^{-3}$	$1.2857^{+3}$	$2.9917^{+0}$	$8.1378^{+0}$	$2.1318^{+3}$	$2.1442^{+3}$	$4.9222^{+0}$	$4.9481^{+0}$	$2.0115^{+2}$	$-1.1312^{+2}$
$1.0^{-2}$	$4.9765^{+1}$	$1.1135^{+0}$	$3.0471^{+0}$	$8.1561^{+1}$	$8.6349^{+1}$	$1.8159^{+0}$	$1.9157^{+0}$	$2.1544^{+1}$	$1.1308^{+1}$
$1.0^{-1}$	$2.0742^{+0}$	$4.3359^{-1}$	$7.3275^{-1}$	$2.6003^{+0}$	$3.9165^{+0}$	$5.4456^{-1}$	$8.1640^{-1}$	$2.9335^{+0}$	$4.8464^{+0}$
$3.0^{-1}$	$3.3064^{-1}$	$2.0237^{-1}$	$1.6382^{-1}$	$2.7662^{-1}$	$6.5380^{-1}$	$1.6921^{-1}$	$4.0008^{-1}$	$4.8720^{-1}$	$1.1976^{+0}$
$5.0^{-1}$	$7.1444^{-2}$	$7.2266^{-2}$	$3.6706^{-2}$	$4.1023^{-2}$	$1.4540^{-1}$	$4.1447^{-2}$	$1.4708^{-1}$	$7.9485^{-2}$	$2.8514^{-1}$
$7.0^{-1}$	$9.8069^{-3}$	$1.3811^{-2}$	$4.9883^{-3}$	$3.3899^{-3}$	$2.0519^{-2}$	$4.7699^{-3}$	$2.8899^{-2}$	$6.7416^{-3}$	$4.0912^{-2}$
$9.0^{-1}$	$1.9877^{-4}$	$3.5839^{-4}$	$9.8903^{-5}$	$2.3616^{-5}$	$4.2800^{-4}$	$4.2567^{-5}$	$7.7170^{-4}$	$4.7221^{-5}$	$8.5591^{-4}$

Table 8: N<sup>3</sup>LO stucture functions with NNLO evolution at  $Q = 50$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$1.0214^{+6}$	$2.4082^{+1}$	$1.3387^{+2}$	$1.3773^{+6}$	$1.3773^{+6}$	$3.2310^{+1}$	$3.2312^{+1}$	$3.9326^{+4}$	$-3.8724^{+4}$
$1.0^{-4}$	$4.4928^{+4}$	$1.0446^{+1}$	$5.3450^{+1}$	$6.1229^{+4}$	$6.1261^{+4}$	$1.4155^{+1}$	$1.4161^{+1}$	$2.7296^{+3}$	$-2.4898^{+3}$
$1.0^{-3}$	$1.7855^{+3}$	$4.0678^{+0}$	$2.1142^{+1}$	$2.4685^{+3}$	$2.4818^{+3}$	$5.5889^{+0}$	$5.6166^{+0}$	$2.0175^{+2}$	$-1.0710^{+2}$
$1.0^{-2}$	$6.4285^{+1}$	$1.4139^{+0}$	$7.7140^{+0}$	$8.8486^{+1}$	$9.3515^{+1}$	$1.9379^{+0}$	$2.0422^{+0}$	$2.1917^{+1}$	$1.2502^{+1}$
$1.0^{-1}$	$2.3816^{+0}$	$4.9439^{-1}$	$1.7529^{+0}$	$2.5701^{+0}$	$3.8862^{+0}$	$5.3407^{-1}$	$8.0470^{-1}$	$2.8758^{+0}$	$4.8272^{+0}$
$3.0^{-1}$	$3.4937^{-1}$	$2.1318^{-1}$	$3.6831^{-1}$	$2.5495^{-1}$	$6.1042^{-1}$	$1.5547^{-1}$	$3.7242^{-1}$	$4.4868^{-1}$	$1.1205^{+0}$
$5.0^{-1}$	$7.0729^{-2}$	$7.1418^{-2}$	$7.8006^{-2}$	$3.5659^{-2}$	$1.2861^{-1}$	$3.5971^{-2}$	$1.2987^{-1}$	$6.9071^{-2}$	$2.5238^{-1}$
$7.0^{-1}$	$8.9830^{-3}$	$1.2640^{-2}$	$9.8798^{-3}$	$2.7401^{-3}$	$1.6938^{-2}$	$3.8528^{-3}$	$2.3834^{-2}$	$5.4484^{-3}$	$3.3776^{-2}$
$9.0^{-1}$	$1.5791^{-4}$	$2.8466^{-4}$	$1.7112^{-4}$	$1.6629^{-5}$	$3.0888^{-4}$	$2.9968^{-5}$	$5.5681^{-4}$	$3.3248^{-5}$	$6.1771^{-4}$

Table 9: N<sup>3</sup>LO stucture functions with NNLO evolution at  $Q = 100$  GeV, and  $n_f = 5$  light flavours.

## 2 Benchmark tables with HOPPET

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$4.9966^{+4}$	$1.5085^{+0}$	$3.4458^{-2}$	$9.6690^{+4}$	$9.6717^{+4}$	$2.8589^{+0}$	$2.8595^{+0}$	$2.1997^{+4}$	$-2.1814^{+4}$
$1.0^{-4}$	$3.5370^{+3}$	$1.0505^{+0}$	$1.7875^{-2}$	$6.8928^{+3}$	$6.9067^{+3}$	$2.0028^{+0}$	$2.0058^{+0}$	$1.7751^{+3}$	$-1.6803^{+3}$
$1.0^{-3}$	$2.4761^{+2}$	$7.1563^{-1}$	$8.7463^{-3}$	$4.8255^{+2}$	$4.8939^{+2}$	$1.3664^{+0}$	$1.3811^{+0}$	$1.5419^{+2}$	$-1.0784^{+2}$
$1.0^{-2}$	$1.8294^{+1}$	$4.9277^{-1}$	$3.9543^{-3}$	$3.3637^{+1}$	$3.6713^{+1}$	$9.0065^{-1}$	$9.6775^{-1}$	$1.7954^{+1}$	$2.9668^{+0}$
$1.0^{-1}$	$1.7795^{+0}$	$4.0072^{-1}$	$1.4381^{-3}$	$2.4287^{+0}$	$3.5994^{+0}$	$5.5218^{-1}$	$8.0596^{-1}$	$3.1699^{+0}$	$4.3670^{+0}$
$3.0^{-1}$	$5.0019^{-1}$	$3.1315^{-1}$	$5.3436^{-4}$	$4.8044^{-1}$	$1.0247^{+0}$	$3.0027^{-1}$	$6.4138^{-1}$	$8.7182^{-1}$	$1.8494^{+0}$
$5.0^{-1}$	$1.6809^{-1}$	$1.7140^{-1}$	$1.8517^{-4}$	$1.1350^{-1}$	$3.5189^{-1}$	$1.1539^{-1}$	$3.5888^{-1}$	$2.2211^{-1}$	$6.8705^{-1}$
$7.0^{-1}$	$3.7649^{-2}$	$5.3128^{-2}$	$4.0874^{-5}$	$1.5406^{-2}$	$8.0950^{-2}$	$2.1703^{-2}$	$1.1424^{-1}$	$3.0736^{-2}$	$1.6129^{-1}$
$9.0^{-1}$	$1.6475^{-3}$	$2.9702^{-3}$	$1.7405^{-6}$	$2.2898^{-4}$	$3.6497^{-3}$	$4.1266^{-4}$	$6.5798^{-3}$	$4.5806^{-4}$	$7.2985^{-3}$

Table 10: NLO stucture functions with NLO evolution at  $Q = 2$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$6.5169^{+5}$	$1.5831^{+1}$	$3.9508^{+1}$	$1.0443^{+6}$	$1.0444^{+6}$	$2.5233^{+1}$	$2.5235^{+1}$	$2.2026^{+4}$	$-2.1598^{+4}$
$1.0^{-4}$	$3.0094^{+4}$	$7.1530^{+0}$	$1.8274^{+1}$	$4.8785^{+4}$	$4.8812^{+4}$	$1.1524^{+1}$	$1.1529^{+1}$	$1.8058^{+3}$	$-1.6079^{+3}$
$1.0^{-3}$	$1.2782^{+3}$	$2.9512^{+0}$	$7.9359^{+0}$	$2.1053^{+3}$	$2.1175^{+3}$	$4.8278^{+0}$	$4.8529^{+0}$	$1.6680^{+2}$	$-8.0951^{+1}$
$1.0^{-2}$	$5.0228^{+1}$	$1.1089^{+0}$	$3.0514^{+0}$	$8.2279^{+1}$	$8.7032^{+1}$	$1.8084^{+0}$	$1.9071^{+0}$	$2.1543^{+1}$	$1.1369^{+1}$
$1.0^{-1}$	$2.1078^{+0}$	$4.3654^{-1}$	$7.4300^{-1}$	$2.6583^{+0}$	$3.9864^{+0}$	$5.5087^{-1}$	$8.2396^{-1}$	$3.0120^{+0}$	$4.8797^{+0}$
$3.0^{-1}$	$3.3828^{-1}$	$2.0595^{-1}$	$1.6781^{-1}$	$2.8339^{-1}$	$6.6939^{-1}$	$1.7236^{-1}$	$4.0750^{-1}$	$5.0084^{-1}$	$1.2251^{+0}$
$5.0^{-1}$	$7.2949^{-2}$	$7.3507^{-2}$	$3.7503^{-2}$	$4.1693^{-2}$	$1.4855^{-1}$	$4.1970^{-2}$	$1.4969^{-1}$	$8.0977^{-2}$	$2.9141^{-1}$
$7.0^{-1}$	$9.7862^{-3}$	$1.3749^{-2}$	$4.9771^{-3}$	$3.3390^{-3}$	$2.0488^{-2}$	$4.6882^{-3}$	$2.8785^{-2}$	$6.6487^{-3}$	$4.0859^{-2}$
$9.0^{-1}$	$1.7778^{-4}$	$3.2027^{-4}$	$8.8431^{-5}$	$2.0508^{-5}$	$3.8298^{-4}$	$3.6939^{-5}$	$6.8993^{-4}$	$4.1020^{-5}$	$7.6590^{-4}$

Table 11: NLO stucture functions with NLO evolution at  $Q = 50$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$9.9729^{+5}$	$2.3646^{+1}$	$1.0594^{+2}$	$1.3337^{+6}$	$1.3338^{+6}$	$3.1492^{+1}$	$3.1494^{+1}$	$2.1969^{+4}$	$-2.1494^{+4}$
$1.0^{-4}$	$4.3984^{+4}$	$1.0220^{+1}$	$4.8352^{+1}$	$5.9496^{+4}$	$5.9526^{+4}$	$1.3756^{+1}$	$1.3762^{+1}$	$1.8063^{+3}$	$-1.5895^{+3}$
$1.0^{-3}$	$1.7689^{+3}$	$4.0031^{+0}$	$2.0642^{+1}$	$2.4329^{+3}$	$2.4459^{+3}$	$5.4752^{+0}$	$5.5022^{+0}$	$1.6843^{+2}$	$-7.6015^{+1}$
$1.0^{-2}$	$6.4595^{+1}$	$1.4056^{+0}$	$7.7271^{+0}$	$8.8894^{+1}$	$9.3889^{+1}$	$1.9269^{+0}$	$2.0302^{+0}$	$2.1948^{+1}$	$1.2542^{+1}$
$1.0^{-1}$	$2.4151^{+0}$	$4.9778^{-1}$	$1.7757^{+0}$	$2.6188^{+0}$	$3.9463^{+0}$	$5.3990^{-1}$	$8.1189^{-1}$	$2.9482^{+0}$	$4.8573^{+0}$
$3.0^{-1}$	$3.5670^{-1}$	$2.1677^{-1}$	$3.7653^{-1}$	$2.6060^{-1}$	$6.2364^{-1}$	$1.5823^{-1}$	$3.7897^{-1}$	$4.6037^{-1}$	$1.1439^{+0}$
$5.0^{-1}$	$7.2170^{-2}$	$7.2656^{-2}$	$7.9652^{-2}$	$3.6259^{-2}$	$1.3130^{-1}$	$3.6472^{-2}$	$1.3220^{-1}$	$7.0406^{-2}$	$2.5774^{-1}$
$7.0^{-1}$	$9.0080^{-3}$	$1.2651^{-2}$	$9.9079^{-3}$	$2.7203^{-3}$	$1.6996^{-2}$	$3.8183^{-3}$	$2.3869^{-2}$	$5.4157^{-3}$	$3.3897^{-2}$
$9.0^{-1}$	$1.4497^{-4}$	$2.6113^{-4}$	$1.5706^{-4}$	$1.4904^{-5}$	$2.8369^{-4}$	$2.6843^{-5}$	$5.1103^{-4}$	$2.9810^{-5}$	$5.6734^{-4}$

Table 12: NLO stucture functions with NLO evolution at  $Q = 100$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$5.6571^{+4}$	$1.4043^{+0}$	$4.3612^{-2}$	$1.1411^{+5}$	$1.1414^{+5}$	$2.7950^{+0}$	$2.7957^{+0}$	$3.9818^{+4}$	$-3.9585^{+4}$
$1.0^{-4}$	$3.3447^{+3}$	$8.9927^{-1}$	$1.9576^{-2}$	$6.8499^{+3}$	$6.8654^{+3}$	$1.7990^{+0}$	$1.8025^{+0}$	$2.7590^{+3}$	$-2.6549^{+3}$
$1.0^{-3}$	$2.0700^{+2}$	$5.9521^{-1}$	$8.8330^{-3}$	$4.2120^{+2}$	$4.2824^{+2}$	$1.1768^{+0}$	$1.1924^{+0}$	$1.9262^{+2}$	$-1.4580^{+2}$
$1.0^{-2}$	$1.5677^{+1}$	$4.4505^{-1}$	$3.9117^{-3}$	$2.8989^{+1}$	$3.2064^{+1}$	$8.1638^{-1}$	$8.8502^{-1}$	$1.8013^{+1}$	$2.6760^{+0}$
$1.0^{-1}$	$1.6533^{+0}$	$3.9509^{-1}$	$1.3776^{-3}$	$2.2079^{+0}$	$3.3478^{+0}$	$5.3906^{-1}$	$7.9276^{-1}$	$2.9831^{+0}$	$4.2298^{+0}$
$3.0^{-1}$	$4.6909^{-1}$	$3.0325^{-1}$	$5.0261^{-4}$	$4.5052^{-1}$	$9.6050^{-1}$	$2.9169^{-1}$	$6.2044^{-1}$	$8.2373^{-1}$	$1.7384^{+0}$
$5.0^{-1}$	$1.6450^{-1}$	$1.7075^{-1}$	$1.8147^{-4}$	$1.1385^{-1}$	$3.4373^{-1}$	$1.1765^{-1}$	$3.5687^{-1}$	$2.2316^{-1}$	$6.7051^{-1}$
$7.0^{-1}$	$4.0922^{-2}$	$5.8220^{-2}$	$4.4505^{-5}$	$1.7516^{-2}$	$8.7799^{-2}$	$2.4837^{-2}$	$1.2493^{-1}$	$3.4950^{-2}$	$1.7487^{-1}$
$9.0^{-1}$	$2.3255^{-3}$	$4.1996^{-3}$	$2.4590^{-6}$	$3.4231^{-4}$	$5.1469^{-3}$	$6.1765^{-4}$	$9.2950^{-3}$	$6.8477^{-4}$	$1.0292^{-2}$

Table 13: NNLO stucture functions with NNLO evolution at  $Q = 2$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$6.7559^{+5}$	$1.6167^{+1}$	$5.0329^{+1}$	$1.0932^{+6}$	$1.0933^{+6}$	$2.6001^{+1}$	$2.6003^{+1}$	$3.9590^{+4}$	$-3.9043^{+4}$
$1.0^{-4}$	$3.0902^{+4}$	$7.3197^{+0}$	$2.0316^{+1}$	$5.0548^{+4}$	$5.0577^{+4}$	$1.1888^{+1}$	$1.1894^{+1}$	$2.7462^{+3}$	$-2.5258^{+3}$
$1.0^{-3}$	$1.2898^{+3}$	$2.9968^{+0}$	$8.1456^{+0}$	$2.1383^{+3}$	$2.1507^{+3}$	$4.9301^{+0}$	$4.9561^{+0}$	$2.0130^{+2}$	$-1.1319^{+2}$
$1.0^{-2}$	$4.9898^{+1}$	$1.1147^{+0}$	$3.0465^{+0}$	$8.1772^{+1}$	$8.6560^{+1}$	$1.8178^{+0}$	$1.9175^{+0}$	$2.1548^{+1}$	$1.1298^{+1}$
$1.0^{-1}$	$2.0778^{+0}$	$4.3360^{-1}$	$7.3305^{-1}$	$2.6060^{+0}$	$3.9225^{+0}$	$5.4467^{-1}$	$8.1639^{-1}$	$2.9353^{+0}$	$4.8481^{+0}$
$3.0^{-1}$	$3.3135^{-1}$	$2.0256^{-1}$	$1.6414^{-1}$	$2.7727^{-1}$	$6.5515^{-1}$	$1.6938^{-1}$	$4.0045^{-1}$	$4.8818^{-1}$	$1.1999^{+0}$
$5.0^{-1}$	$7.1573^{-2}$	$7.2324^{-2}$	$3.6771^{-2}$	$4.1060^{-2}$	$1.4567^{-1}$	$4.1442^{-2}$	$1.4721^{-1}$	$7.9553^{-2}$	$2.8569^{-1}$
$7.0^{-1}$	$9.7708^{-3}$	$1.3750^{-2}$	$4.9694^{-3}$	$3.3652^{-3}$	$2.0447^{-2}$	$4.7319^{-3}$	$2.8775^{-2}$	$6.6926^{-3}$	$4.0769^{-2}$
$9.0^{-1}$	$1.9106^{-4}$	$3.4438^{-4}$	$9.5055^{-5}$	$2.2447^{-5}$	$4.1147^{-4}$	$4.0449^{-5}$	$7.4166^{-4}$	$4.4884^{-5}$	$8.2286^{-4}$

Table 14: NNLO stucture functions with NNLO evolution at  $Q = 50$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$1.0243^{+6}$	$2.4063^{+1}$	$1.3373^{+2}$	$1.3811^{+6}$	$1.3811^{+6}$	$3.2287^{+1}$	$3.2288^{+1}$	$3.9344^{+4}$	$-3.8743^{+4}$
$1.0^{-4}$	$4.5046^{+4}$	$1.0453^{+1}$	$5.3502^{+1}$	$6.1384^{+4}$	$6.1416^{+4}$	$1.4165^{+1}$	$1.4171^{+1}$	$2.7309^{+3}$	$-2.4909^{+3}$
$1.0^{-3}$	$1.7896^{+3}$	$4.0725^{+0}$	$2.1155^{+1}$	$2.4738^{+3}$	$2.4872^{+3}$	$5.5951^{+0}$	$5.6228^{+0}$	$2.0185^{+2}$	$-1.0715^{+2}$
$1.0^{-2}$	$6.4409^{+1}$	$1.4149^{+0}$	$7.7129^{+0}$	$8.8652^{+1}$	$9.3680^{+1}$	$1.9392^{+0}$	$2.0434^{+0}$	$2.1920^{+1}$	$1.2494^{+1}$
$1.0^{-1}$	$2.3847^{+0}$	$4.9442^{-1}$	$1.7535^{+0}$	$2.5741^{+0}$	$3.8905^{+0}$	$5.3416^{-1}$	$8.0472^{-1}$	$2.8772^{+0}$	$4.8285^{+0}$
$3.0^{-1}$	$3.4990^{-1}$	$2.1333^{-1}$	$3.6883^{-1}$	$2.5537^{-1}$	$6.1133^{-1}$	$1.5558^{-1}$	$3.7267^{-1}$	$4.4933^{-1}$	$1.1221^{+0}$
$5.0^{-1}$	$7.0814^{-2}$	$7.1454^{-2}$	$7.8100^{-2}$	$3.5678^{-2}$	$1.2877^{-1}$	$3.5965^{-2}$	$1.2994^{-1}$	$6.9107^{-2}$	$2.5271^{-1}$
$7.0^{-1}$	$8.9559^{-3}$	$1.2595^{-2}$	$9.8495^{-3}$	$2.7245^{-3}$	$1.6889^{-2}$	$3.8289^{-3}$	$2.3753^{-2}$	$5.4174^{-3}$	$3.3680^{-2}$
$9.0^{-1}$	$1.5308^{-4}$	$2.7587^{-4}$	$1.6587^{-4}$	$1.5980^{-5}$	$2.9948^{-4}$	$2.8791^{-5}$	$5.3971^{-4}$	$3.1950^{-5}$	$5.9890^{-4}$

Table 15: NNLO stucture functions with NNLO evolution at  $Q = 100$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$5.6188^{+4}$	$1.7533^{+0}$	$4.6687^{-2}$	$1.1326^{+5}$	$1.1329^{+5}$	$3.4231^{+0}$	$3.4238^{+0}$	$3.9272^{+4}$	$-3.9021^{+4}$
$1.0^{-4}$	$3.1753^{+3}$	$9.6464^{-1}$	$1.9339^{-2}$	$6.5344^{+3}$	$6.5495^{+3}$	$1.9167^{+0}$	$1.9200^{+0}$	$2.7201^{+3}$	$-2.6173^{+3}$
$1.0^{-3}$	$1.9745^{+2}$	$5.7885^{-1}$	$8.6370^{-3}$	$4.0339^{+2}$	$4.1034^{+2}$	$1.1475^{+0}$	$1.1630^{+0}$	$1.8960^{+2}$	$-1.4389^{+2}$
$1.0^{-2}$	$1.5183^{+1}$	$4.2615^{-1}$	$3.8995^{-3}$	$2.8075^{+1}$	$3.1133^{+1}$	$7.8251^{-1}$	$8.5121^{-1}$	$1.7838^{+1}$	$2.7906^{+0}$
$1.0^{-1}$	$1.6106^{+0}$	$3.9556^{-1}$	$1.3675^{-3}$	$2.1325^{+0}$	$3.2679^{+0}$	$5.3851^{-1}$	$7.9410^{-1}$	$2.9518^{+0}$	$4.2071^{+0}$
$3.0^{-1}$	$4.5288^{-1}$	$3.0005^{-1}$	$4.8776^{-4}$	$4.3219^{-1}$	$9.2842^{-1}$	$2.8837^{-1}$	$6.1415^{-1}$	$7.9934^{-1}$	$1.6868^{+0}$
$5.0^{-1}$	$1.5979^{-1}$	$1.6861^{-1}$	$1.7660^{-4}$	$1.1169^{-1}$	$3.3374^{-1}$	$1.1735^{-1}$	$3.5225^{-1}$	$2.1993^{-1}$	$6.5102^{+0}$
$7.0^{-1}$	$4.1966^{-2}$	$6.0233^{-2}$	$4.5715^{-5}$	$1.8563^{-2}$	$8.9909^{-2}$	$2.6513^{-2}$	$1.2908^{-1}$	$3.7085^{-2}$	$1.7901^{-1}$
$9.0^{-1}$	$2.9251^{-3}$	$5.2931^{-3}$	$3.0959^{-6}$	$4.5450^{-4}$	$6.4683^{-3}$	$8.2128^{-4}$	$1.1705^{-2}$	$9.0922^{-4}$	$1.2935^{-2}$

Table 16: N<sup>3</sup>LO stucture functions with NNLO evolution at  $Q = 2$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$6.7295^{+5}$	$1.6195^{+1}$	$5.0418^{+1}$	$1.0891^{+6}$	$1.0891^{+6}$	$2.6045^{+1}$	$2.6046^{+1}$	$3.9566^{+4}$	$-3.9017^{+4}$
$1.0^{-4}$	$3.0787^{+4}$	$7.3136^{+0}$	$2.0289^{+1}$	$5.0369^{+4}$	$5.0398^{+4}$	$1.1879^{+1}$	$1.1885^{+1}$	$2.7443^{+3}$	$-2.5242^{+3}$
$1.0^{-3}$	$1.2857^{+3}$	$2.9917^{+0}$	$8.1378^{+0}$	$2.1318^{+3}$	$2.1442^{+3}$	$4.9222^{+0}$	$4.9481^{+0}$	$2.0115^{+2}$	$-1.1312^{+2}$
$1.0^{-2}$	$4.9765^{+1}$	$1.1135^{+0}$	$3.0471^{+0}$	$8.1561^{+1}$	$8.6349^{+1}$	$1.8159^{+0}$	$1.9157^{+0}$	$2.1544^{+1}$	$1.1308^{+1}$
$1.0^{-1}$	$2.0742^{+0}$	$4.3359^{-1}$	$7.3275^{-1}$	$2.6003^{+0}$	$3.9165^{+0}$	$5.4456^{-1}$	$8.1640^{-1}$	$2.9335^{+0}$	$4.8464^{+0}$
$3.0^{-1}$	$3.3064^{-1}$	$2.0237^{-1}$	$1.6382^{-1}$	$2.7662^{-1}$	$6.5380^{-1}$	$1.6921^{-1}$	$4.0007^{-1}$	$4.8720^{-1}$	$1.1976^{+0}$
$5.0^{-1}$	$7.1444^{-2}$	$7.2266^{-2}$	$3.6706^{-2}$	$4.1023^{-2}$	$1.4540^{-1}$	$4.1447^{-2}$	$1.4708^{-1}$	$7.9485^{-2}$	$2.8514^{-1}$
$7.0^{-1}$	$9.8069^{-3}$	$1.3811^{-2}$	$4.9883^{-3}$	$3.3898^{-3}$	$2.0519^{-2}$	$4.7699^{-3}$	$2.8899^{-2}$	$6.7416^{-3}$	$4.0912^{-2}$
$9.0^{-1}$	$1.9877^{-4}$	$3.5839^{-4}$	$9.8903^{-5}$	$2.3616^{-5}$	$4.2800^{-4}$	$4.2567^{-5}$	$7.7170^{-4}$	$4.7221^{-5}$	$8.5591^{-4}$

Table 17: N<sup>3</sup>LO stucture functions with NNLO evolution at  $Q = 50$  GeV, and  $n_f = 5$  light flavours.

$x_B$	$F_1^{\text{NC}}$	$F_2^{\text{NC}}$	$F_3^{\text{NC}}$	$F_1^{W^+}$	$F_2^{W^+}$	$F_3^{W^+}$	$F_1^{W^-}$	$F_2^{W^-}$	$F_3^{W^-}$
$1.0^{-5}$	$1.0214^{+6}$	$2.4082^{+1}$	$1.3387^{+2}$	$1.3773^{+6}$	$1.3774^{+6}$	$3.2310^{+1}$	$3.2312^{+1}$	$3.9326^{+4}$	$-3.8724^{+4}$
$1.0^{-4}$	$4.4928^{+4}$	$1.0446^{+1}$	$5.3451^{+1}$	$6.1230^{+4}$	$6.1261^{+4}$	$1.4155^{+1}$	$1.4161^{+1}$	$2.7296^{+3}$	$-2.4898^{+3}$
$1.0^{-3}$	$1.7855^{+3}$	$4.0678^{+0}$	$2.1142^{+1}$	$2.4685^{+3}$	$2.4818^{+3}$	$5.5890^{+0}$	$5.6166^{+0}$	$2.0175^{+2}$	$-1.0710^{+2}$
$1.0^{-2}$	$6.4285^{+1}$	$1.4139^{+0}$	$7.7140^{+0}$	$8.8487^{+1}$	$9.3515^{+1}$	$1.9379^{+0}$	$2.0422^{+0}$	$2.1917^{+1}$	$1.2502^{+1}$
$1.0^{-1}$	$2.3816^{+0}$	$4.9439^{-1}$	$1.7529^{+0}$	$2.5701^{+0}$	$3.8862^{+0}$	$5.3407^{-1}$	$8.0470^{-1}$	$2.8758^{+0}$	$4.8272^{+0}$
$3.0^{-1}$	$3.4937^{-1}$	$2.1318^{-1}$	$3.6831^{-1}$	$2.5495^{-1}$	$6.1042^{-1}$	$1.5547^{-1}$	$3.7242^{-1}$	$4.4868^{-1}$	$1.1205^{+0}$
$5.0^{-1}$	$7.0729^{-2}$	$7.1418^{-2}$	$7.8006^{-2}$	$3.5659^{-2}$	$1.2861^{-1}$	$3.5971^{-2}$	$1.2987^{-1}$	$6.9071^{-2}$	$2.5238^{-1}$
$7.0^{-1}$	$8.9830^{-3}$	$1.2640^{-2}$	$9.8798^{-3}$	$2.7401^{-3}$	$1.6938^{-2}$	$3.8528^{-3}$	$2.3834^{-2}$	$5.4484^{-3}$	$3.3776^{-2}$
$9.0^{-1}$	$1.5791^{-4}$	$2.8466^{-4}$	$1.7112^{-4}$	$1.6629^{-5}$	$3.0888^{-4}$	$2.9968^{-5}$	$5.5681^{-4}$	$3.3248^{-5}$	$6.1771^{-4}$

Table 18: N<sup>3</sup>LO stucture functions with NNLO evolution at  $Q = 100$  GeV, and  $n_f = 5$  light flavours.